I. Amendments to the Claims

1. (Currently Amended) A system ~~for controlling a switched reluctance machine, the system~~ comprising:

a switched reluctance machine including a plurality of phases, each phase including a plurality of machine coils;

a plurality of positive side switch circuits in electrical parallel connection, wherein each positive side switch circuit is electrically connected to a ~~positve~~ positive side of a machine coil of the plurality of machine coils and configured to control the flow of current through the machine coil; and

a plurality of negative side switch circuits in electrical parallel connection, wherein each negative side switch circuit is electrically connected to a negative side of a machine coil of the plurality of machine coils and configured to control the flow of current through the machine coil.

2. (Original) The system according to claim 1, wherein each positive side switch circuit includes a first power switch and a first diode, and each negative side switch circuit includes a second power switch and a second diode.

3. (Currently Amended) The system according to claim 2, wherein the ~~first power switch is in electrical connection with the~~ positive side of the machine coil is electrically connected between the first power switch and the first diode.

PAGE 3/12 * RCVD AT 5/27/2005 7:39:40 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:17349946331 * DURATION (mm-ss):02-56

4. (Currently Amended) The system according to claim 3, wherein ~~the second power switch is in electrical connection with~~ the negative side of the machine coil is electrically connected between the second power switch and the second diode.

5. (Original) The system according to claim 2, wherein the first and second power switches are MOSFET's.

6. (Original) The system according to claim 5, wherein the first and second power switches are N-channel MOSFETs.

7. (Original) The system according to claim 6, wherein a source of the first power switch is in electrical communication with a cathode of the first diode and a drain of the second power switch is in communication with an anode of the second diode.

8. (Original) The system according to claim 7, further comprising a power source, wherein a first side of the power source is in electrical communication with a drain of the first power switch and cathode of the second diode and a second side of the power source is in electrical communication with an anode of the first diode and a source of the second power switch.

PAGE 4/12 * RCVD AT 5/27/2005 7:39:40 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:17349946331 * DURATION (mm-ss):02-56

9. (Original) The system according to claim 5, further comprising a first capacitor in electrical parallel connection with the first power switch and the first diode between a drain of the first power switch and an anode of the first diode.

10. (Original) The system according to claim 9, further comprising a second capacitor in electrical parallel connection with the second power switch between a source of the second power switch and a cathode of the second diode.

11. (Original) The system according to claim 10, wherein the first capacitor is mounted in close proximity to the first power switch and the second capacitor is mounted in close proximity to the second power switch, wherein the first and second capacitors are configured to provide DC line filtering and snubbing of switch off transients.

12. (Original) The system according to claim 1, wherein each positive side switch circuit includes a first and second power switch in electrical series connection and each negative side switch circuit includes a third and fourth power switch in electrical series connection.

13. (Currently Amended) The system according to claim 12, wherein ~~the first power switch is in electrical connection with~~ a positive side of the machine coil is electrically connected between the first and second power switch.

14. (Currently Amended) The system according to claim 13, wherein ~~the second power switch is in electrical connection with~~ a negative side of the machine coil is electrically connected between the third and fourth power switch.

15. (Original) The system according to claim 12, wherein the first, second, third, and fourth power switches are MOSFET's.

16. (Original) The system according to claim 15, wherein the first, second, third, and fourth power switches are N-channel MOSFETs.

17. (Original) The system according to claim 16, wherein a source of the first power switch is in electrical communication with a drain of the second power switch and a drain of the third power switch is in communication with a source of the fourth power switch.

18. (Original) The system according to claim 17, further comprising a power source, wherein a first side of the power source is n electrical communication with a drain of the first power switch and source of the third power switch and a second side of the power source is in electrical

PAGE 6/12 * RCVD AT 5/27/2005 7:39:40 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:17349946331 * DURATION (mm-ss):02-56

communication with a drain of the second power switch and a source of the fourth power switch.

19. (Original) The system according to claim 12, further comprising a first capacitor in electrical parallel connection with the first and second power switch between a drain of the first power switch and a source of the second power switch.

20. (Original) The system according to claim 19, further comprising a second capacitor in electrical parallel connection with the third and fourth power switch between a source of the third power switch and a drain of the fourth power switch.

21. (Original) The system according to claim 20, wherein the first capacitor is mounted in close proximity to the first and second power switch and the second capacitor is mounted in close proximity to the third and fourth power switch, wherein the first and second capacitors are configured to provide DC line filtering and snubbing of switch off transients.

22. (Currently Amended) A system ~~for controlling a switched reluctance machine, the system~~ comprising:

a switched reluctance machine including a plurality of phases, each phase including a plurality of machine coils, the switched reluctance machine

having a plurality of magnetic cores, each machine coil being wound around a corresponding magnetic core of the plurality of magnetic cores;

a plurality of positive side switch circuits in electrical parallel connection, wherein each positive side switch circuit is electrically connected to a machine coil of the plurality of machine coils, each positive side switch circuit including a first power switch and a first diode, the first power switch being in electrical connection with a positive side of the machine coil between the first power switch and the first diode; and

a plurality of negative side switch circuits in electrical parallel connection, wherein each negative side switch circuit is electrically connected to a machine coil of the plurality of machine coils, each negative side switch circuit including a second power switch and a second diode, the second power switch being in electrical connection with a negative side of the machine coil between the second power switch and the second diode.

23. (Original) The system according to claim 22, wherein the first and second power switches are MOSFET's.

24. (Original) The system according to claim 23, wherein the first and second power switches are N-channel MOSFETs.

25. (Original) The system according to claim 24, wherein a source of the first power switch is in electrical communication with a cathode of the first

PAGE 8/12 * RCVD AT 5/27/2005 7:39:40 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:17349946331 * DURATION (mm-ss):02-56

diode and a drain of the second power switch is in communication with a anode of the second diode.

26. (Original) The system according to claim 25, further comprising a power source, wherein a first side of the power source is in electrical communication with a drain of the first power switch and cathode of the second diode and a second side of the power source is in electrical communication with an anode of the first diode and a source of the second power switch.

27. (Original) The system according to claim 22, further comprising a first capacitor in electrical parallel connection with the first and second power switch between a drain of the first power switch and a source of the second power switch.

28. (Original) The system according to claim 27, further comprising a second capacitor in electrical parallel connection with the third and fourth power switch between a source of the third power switch and a drain of the fourth power switch.

29. (Original) The system according to claim 28, wherein the first capacitor is mounted in close proximity to the first and second power switch and the second capacitor is mounted in close proximity to the third and fourth power

switch, wherein the first and second capacitors are configured to provide DC line filtering and snubbing of switch off transients.